

The dangers of cocaine

Study by Guelph University

STORY AND PHOTO BY ANN KORNUA

This year, Milton resident Alex Kocenas along with other students in the Guelph University toxicology course, published a tier-two report on the dangers of cocaine.

Kocenas, a biomedical toxicology student and her classmates at Guelph University wrote "The Toxicology of Substances Used in the Production and Refining of Cocaine and Heroin and Tier Two Hazardous Assignment," at the request of the Columbian government after last year's class wrote a tier-one report on the general dangers of drugs.

Cocaine is a powerful central nervous system (CNS) stimulant that heightens alertness, restrains appetite and the need for sleep, as well as providing feelings of pleasure. It is prepared from the leaf of the Erythroxylon coca bush, which grows primarily in Peru and Bolivia.

The Canadian Centre of Addiction and Mental Health reported in 2004 that 7% of Ontario adults admitted to using cocaine at least once in their lifetime and 2% used it during the past year. Rates of cocaine use have remained relatively stable over the past two decades.

What most people do not realize is that most forms of cocaine are never pure and hold high traces of pesticides and other compounds. These substances build up in the body's system. During the manufacturing process these additives can leach out creating a hazard for natural wildlife, the environment and surrounding villages.

This report offers no new data, but does present it clearly.

"They wanted us to do this research for them and compile it into a cohesive package," said Kocenas.

Last year, biology and environmental studies students researched the top sixty hazardous chemicals including pesticides and the solvents in cocaine. The students took two chemicals each and looked at how they affected the environment and living mammal life.

"We sent that report to the Columbian government as a tier-one analysis, giving just basic knowledge of the drug and now they want a tier-two study," Kocenas said.

"Dr. Solomon, our professor, went down and took toxic soil and water samples. He spear-headed the project."

Kocenas who plans to go into forensic toxicology after she graduates, focused on pesticides used in the cocaine fields and fixed on two major compounds for the report - Diazinon and Lambda-Cyhalothrin. Diazinon is used here in Ontario and became notorious when a Toronto dog park was sectioned off after dogs became sick or died after exposure to the pesticide last year. Diazinon is a neurotoxin that over-stimulates the muscles and neurotransmitters.

"Diazinon is used to fend off insects and sometimes moles in extreme cases," Kocenas explained. "In my opinion it is a very nasty and relatively potent pesticide that can build up in the body's system and in high doses can kill. Chances are if it can kill bugs, it can kill you."

Alex's research was intended to show what pesticides were doing to the water and how it affected other crops and animal life.

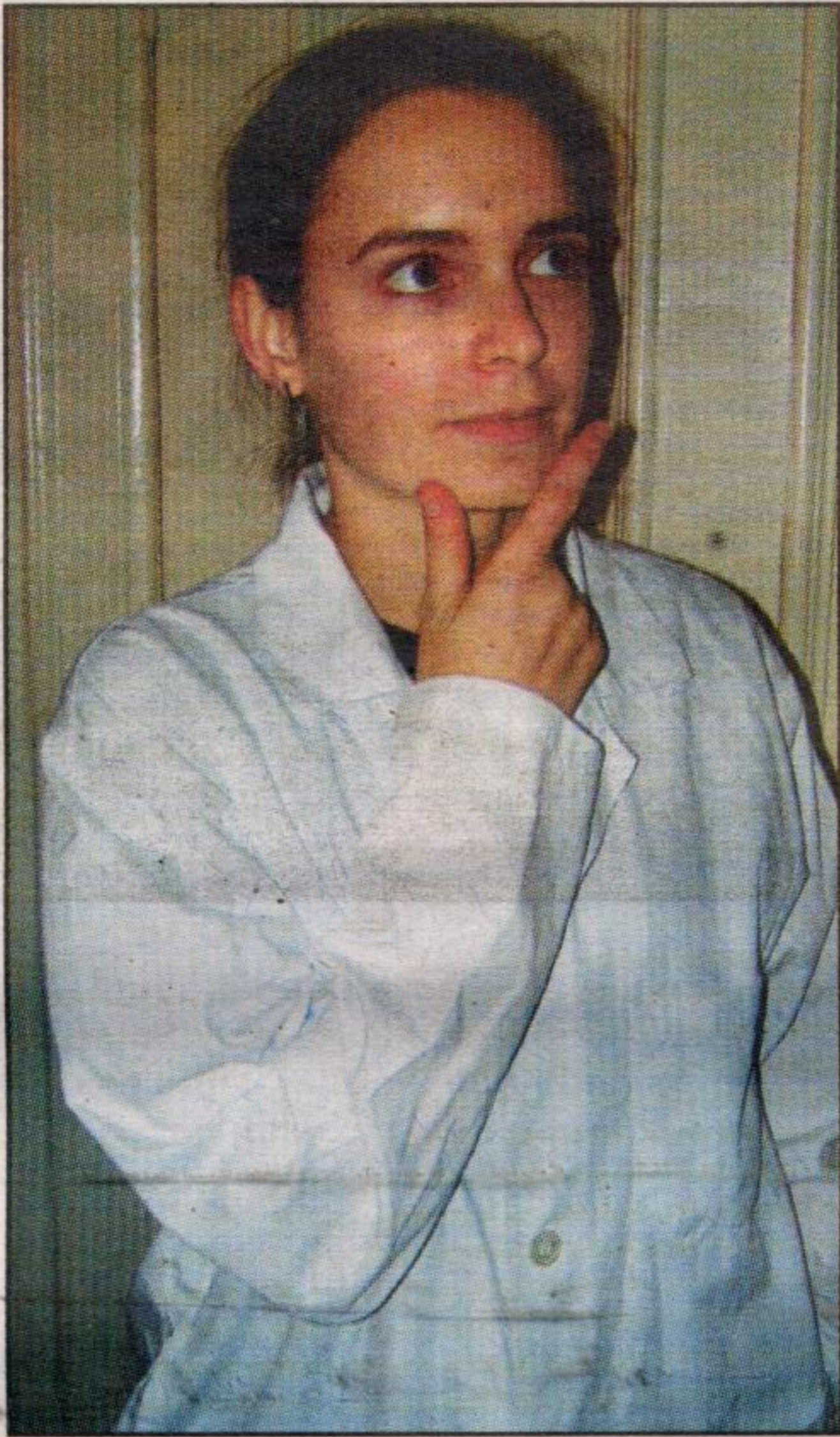
"That part of the world has a diverse ecosystem and I think it will help halt cocaine production in Columbia because of these findings," Kocenas commented.

"Often, cocaine farmers will clear cut massive forests just to grow the Coca beans. The government wants to know what these chemicals do to the workers or the children swimming in streams nearby these farms if they affect them."

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Alex Kocenas, a Guelph University Bio Toxicology student had a report published this year for the Columbian government on the toxicology of substances used in the production and refining of cocaine and heroin.

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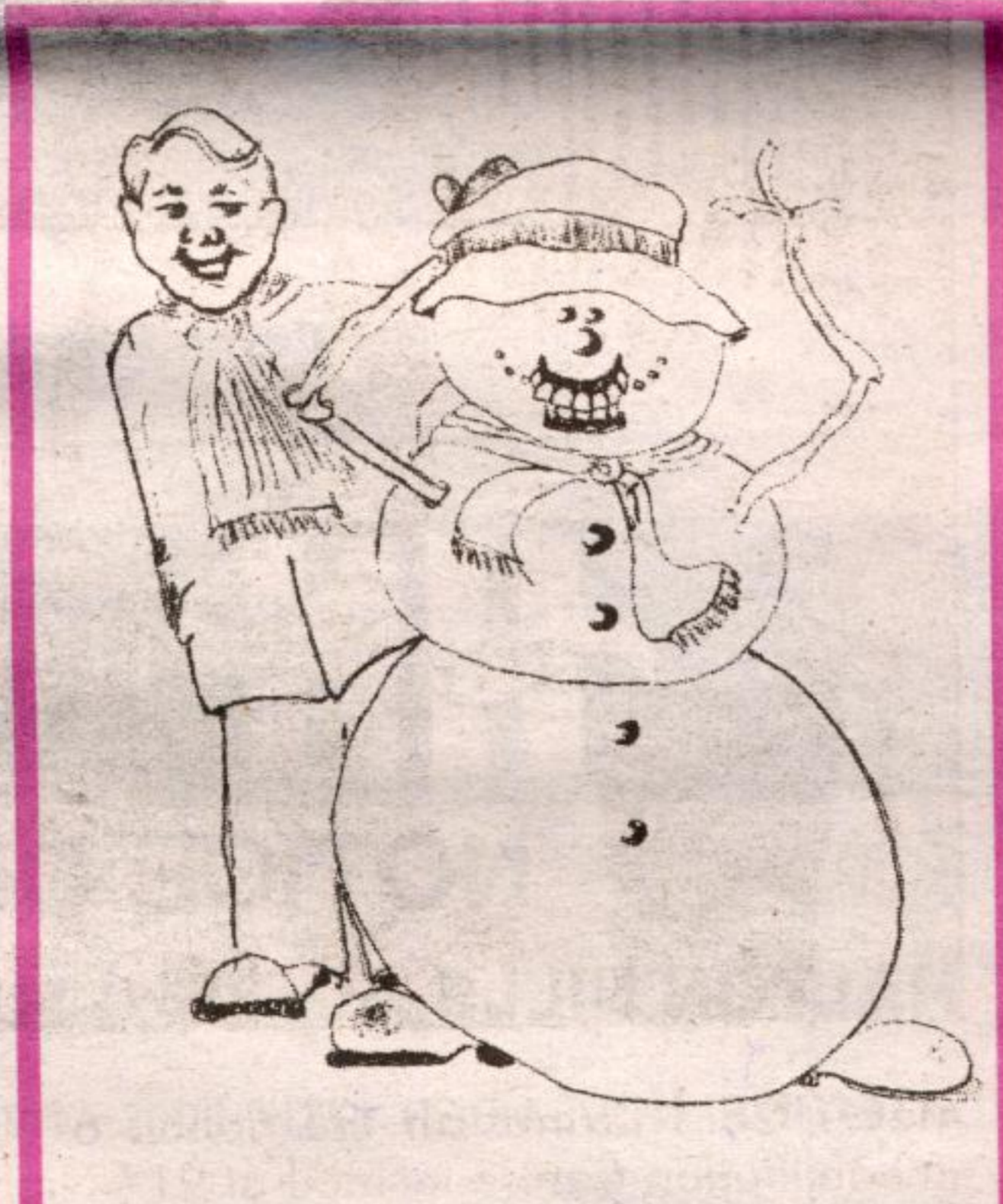
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